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CONTENTS

VAN DYKE, NEW SPECIES OF NORTH AMERICAN COLEOPTERA 81
RAY, STUDIES ON NORTH AMERICAN MORDELLIDAE, III 90
FRANK E. BLAISDELL, SR. 99
HELFER, A NEW SUBSPECIES OF BUPRESTIS 100
LA RIVERS, SOME FOOD HABITS OF FERONIA ATER DEJEAN 102
COOLEY, IXODES HOLDENRIEDI, A NEW SPECIES OF TICK FROM A POCKET GOPHER IN CALIFORNIA 103
MELANDER, SYNOPSIS OF COPTOPHLEBIA, WITH DESCRIPTIONS OF NEW AMERICAN AND ORIENTAL SPECIES 105
FENDER, A CORRECTION TO THE KEY TO THE GENERA OF SCRAPTIINI 117
LA RIVERS, A FORTUITOUS BEER TRAP 117
PATE, A NEW WASP FROM THE GALAPAGOS ISLANDS 118

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1946

THE PAN-PACIFIC ENTOMOLOGIST

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The Pan-Pacific Entomologist

VOL. XXII, No. 3 JULY, 1946

NEW SPECIES OF NORTH AMERICAN COLEOPTERA

BY EDWIN C. VAN DYKE
California Academy of Sciences, San Francisco

OEDEMERIDAE

Asclera auripilis Van Dyke, new species

Form slender, black beneath, head black, clypeus, terminal segments of maxillary palpi, pronotum, legs and two and a half of the basal antennal segments yellow, the outer antennal segments and elytra of a slaty color, the last also moderately densely clothed with a fine, short and closely appressed somewhat golden pile. Head moderately punctured, depressed in front. Prothorax slightly longer than wide, sides strongly arcuate in front, narrowed behind, disk impressed at middle behind and laterally in front, very finely, rather closely punctured. Elytra finely, densely punctured, the costae distinct. Last ventral segment with sides oblique toward apex in both sexes. Length 6.5 mm., breadth 2 mm.

Holotype male, *allotype* female (Nos. 5508 and 5509, Mus. Calif. Acad. Sci., Ent.) and sixteen *paratypes* collected at lower levels, in the SEQUOIA NATIONAL PARK, CALIFORNIA, during late May and early June, 1939, by myself.

The four species of the genus *Asclera* found on the Pacific Coast may be separated as follows:

1. Entire insect black or bluish black ..... *nigra*
– Insect bicolored 2
2. Elytra in great part yellow ..... *discolor*
– Elytra entirely black or bluish black 3
3. Elytra a pronounced black or bluish color with pile hardly noticeable ..... *excavatus*
– Elytra a slaty color with conspicuous though fine golden yellow pile ..... *auripilis*

Of the four species, *auripilis* seems to be the most local. *Asclera nigra* is northern while *discolor* and *excavatus* are more or less widely distributed throughout California.

ELATERIDAE—PLASTOCERINAE

Plastocerus campanulatus Van Dyke, new species

Elongate, subparallel, rufotestaceous, legs and underside a bit lighter, and distinctly clothed with a rather coarse, fulvous pile, depressed on the elytra but suberect on the forebody. Head very coarsely and densely punctured, flattened in front; eyes moderate in size, projecting but little beyond side margin of head; antennae extending backwards as far as apices of hind angles of prothorax, the appendages of the median segments at least five times the length of the segments themselves, and the eleventh segment about equal in length to the appendage of the tenth but more robust. Prothorax broader than long, front margin broadly lobed; sides strongly arcuate in front, at times almost angulate, emarginate posteriorly, the hind angles long, sharp and divergent; disk coarsely and densely, more or less cribrately punctured, the median longitudinal impression well marked. Elytra almost three times as long as broad, slightly narrowed behind, striae distinctly impressed and rather regularly though at times somewhat obscurely punctured, the intervals quite convex. Prosternum rather finely and sparsely punctured with prominent median carina, the propleurae rather densely punctured and the abdomen finely punctured. Length 12 mm., breadth 3 mm.

Holotype male (No. 5510, Mus. Calif. Acad. Sci., Ent.) and eleven *paratypes*, all collected by myself near GILMAN HOT SPRINGS, RIVERSIDE COUNTY, CALIFORNIA, June 10, 1941.

This species is related to *amplicollis* Van Dyke and would run close to that in my table for the separation of species (Proc. Calif. Acad. Sci., Fourth Ser., Vol. XX, 1932, p. 458). While superficially looking much like *amplicollis*, it differs from it by having less prominent eyes, the median appendages of antennae longer, the sides of prothorax quite evenly arcuate in front, not suddenly explanate, and the elytral striae more deeply impressed.

Plastocerus gracilior Van Dyke, new species

Slender, elongate, piceous above, antennae, legs and underside testaceous, and sparsely clothed with very fine, inconspicuous pile. Head coarsely, deeply punctured, closely in front but well spaced behind, and quite convex; eyes moderately prominent but not hemispherical, the width of pair about equal to two-thirds the distance between the eyes; antennae about reaching hind angles of prothorax, the appendages of the median segments about four times the length of the segments and the eleventh segment about equal in length to the appendages of the tenth and slightly stouter. Prothorax longer than broad, front margin feebly lobed, the sides

slightly arcuate, almost parallel, the hind angles short, divergent and with outer margin carinate; disk smooth and shining, coarsely and discretely punctured and with median longitudinal impression but vaguely indicated posteriorly. Elytra two and two-thirds as long as broad, gradually narrowed posteriorly, striae broadly and feebly impressed and rather coarsely punctured from anterior third to apex, the basal area with the punctures fine and irregularly disposed, the intervals feebly elevated posteriorly and in general finely rugose. Beneath, the prosternum moderately punctured and with well developed carina at center, the propleurae very distinctly but discretely punctured, the abdomen rather finely and regularly punctured. Length 11 mm., breadth 3 mm.

Holotype male (No. 5511, Mus. Calif. Acad. Sci., Ent.) a unique collected by myself at VAN HORN, TEXAS, June 24, 1942.

This graceful species because of its shining appearance, more or less cylindrical prothorax, with coarse yet well spaced punctures and contrasting coloration, stands well apart from our California species. Of those described from outside of California, *granti* Schffr. has the antennal appendages shorter; *jeffersonianus* Knull has the head and elytra definitely black and the prothorax broader; while *coronadi* Knull has not only a broader prothorax but it has it densely punctured.

BUPRESTIDAE

Agrilus chalcogaster Van Dyke, new species

Elongate, moderately robust, shining and brilliantly green above with a cupreous sheen about the scutellum and the elytral suture, the head and forebody beneath green with a strong cupreous tint and the legs and abdomen a brilliant copper color. Head rather wide, with sides parallel, the front broadly, deeply longitudinally sulcate, densely, coarsely punctate and rugose and with a patch of white pile behind the epistoma, the epistoma narrow between the antennae, broadly and shallowly emarginate in front, and with the exterior angles right angled; the antennae short, extending back one or two segments beyond anterior prothoracic margin, serrate from the fourth segment with all serrate segments transverse; eyes large, elliptical in outline. Prothorax quite quadrate, the anterior pronotal margin feebly arcuate at middle. Sides very slightly arcuate, almost straight and feebly convergent forwards, the hind margin broadly emarginate at sides and truncate in front of scutellum, the lateral margin carinate with the carinae depressed near front angles and feebly arched behind, vague carinae within hind angles; the disk convex, feebly longitudinally grooved medially, irregularly impressed laterally, with a deep fovea within the hind angles, a pair of minute foveae in front of the

scutellum, the surface densely, coarsely punctured and somewhat rugose. Scutellum depressed at center and smooth and shining. Elytra about three times as long as broad, as broad at base as base of prothorax, with sides somewhat constricted at middle, feebly narrower posteriorly than near base and gradually rounded to apex, each elytron of which is individually rounded and feebly serrulate; the disk convex, without longitudinal costae or sulci, the sutural margin very feebly elevated towards apex, with broad, deep basal impressions and the surface finely, densely punctate—granulose. Beneath, the prosternum coarsely punctate and granulose and sparsely clothed with long, somewhat whitish hairs, the prosternal lobe broad and feeble and truncate at middle, the pleurae finely punctured and decidedly scabrous as is also the abdomen. The abdomen quite convex, with the suture between the first and second segment plainly visible, a dense patch of white pile in a depression at the anterior side margin of all segments, the last segment strongly rounded and the pygidium with well developed carina which is not projecting. The tibiae slender, posterior tarsi shorter than tibiae and tarsal claws cleft, the inner tooth shorter and more robust and but slightly divergent from the outer. Length 8 mm., breadth 2.5 mm.

Holotype (No. 5512, Mus. Calif. Acad. Sci., Ent.) a unique female collected by myself in the CAJON PASS, SAN BERNARDINO COUNTY, CALIFORNIA, June 24, 1941.

This very attractive species is closely related to the Lower Californian, *Agrilus inhabilis* Kerr. (A. *ineptus* Horn), with the true type from Pescadero, Lower California, in the California Academy collection, with which it has been carefully compared. It differs from that, however, not only in its color pattern but by having a broad head with broad frontal sulcus, head narrow and with narrow sulcus in the other, the prothorax quadrate with front margin almost as wide as base and sides almost parallel as against the front margin about two-thirds as wide as base and sides quite convergent forwards, the disk with a feeble median longitudinal impression as against a well marked impression and the side margin sinuous whereas straight in *inhabilis*. As indicated by Fisher, this would also place it close to *pulchellus* and in *Engyaulus* which I would be willing to consider as a subgenus of *Agrilus*, not a genus. If we recognize categories founded on the minor characters such as define *Engyaulus*, we would have to recognize many another grouping of species particularly as regards the Old World and break down a genus which today stands out with great distinctness.

ANOBIIDAE

Vriletta montana Van Dyke, new species

Elongate, parallel, cylindrical, rufous to rufo-piceous, the appendages and underside lighter in color, and clothed with a very minute, closely appressed pile which gives the surface a faintly sericeous appearance. Antennae of moderate length, the outer segments of funicle serrate, gradually broader and more transverse outwardly, the three terminal segments elongate, parallel, each at least three times as long as broad, the eleventh the narrowest. Prothorax about a fourth broader than long, the sides widely margined and reflexed, and densely, finely punctate—granulose over the whole surface giving it an opaque appearance. Elytra a fourth longer than broad, surface minutely punctate-rugose, the striae well impressed, deepest at sides and finely, rather closely punctured, the intervals convex and more or less regularly elevated. Length 5 mm., breadth 2 mm.

Males generally smaller and narrower, and with the antennae longer, the outer funicular segments more serrate and transverse and the three terminal segments longer and narrower. In this species, the basal segments of the hind tarsi are a bit longer than the following three united.

Holotype male and *allotype* female (Nos. 5513 and 5514, Mus. Calif. Acad. Sci., Ent.), collected by Dr. F. E. Blaisdell at HULVILLE, LAKE COUNTY, CALIFORNIA, June 13 and June 18, 1917. Numerous *paratypes* are also designated from our series of 104 specimens, 95 from HULVILLE, others from MURPHYS, CALAVERAS COUNTY, May, 1916, Blaisdell collection, SEQUOIA NATIONAL PARK, June 29, and IDYLLWILD, RIVERSIDE COUNTY, June, 1940, Van Dyke collection, and KEEN CAMP, SAN JACINTO MTS., 1937, E. P. Van Duzee collector.

This species in general most closely suggests *expansa* but it is of a more rufous color, more elongate and narrower, with the elytral intervals more evenly elevated than in that and in fact than in any of the other species. The antennae are suggestive of those figured of *murrayi*, figure 13, by Fall in his "Revision of the Ptinidae," but the ninth and tenth segments are narrower and more parallel, in this regard simulating the antennae of *Euvrilleta*.

Euvrilleta texana Van Dyke, new species

Elongate, cylindrical, three times as long as wide, plumbeous in color and densely clothed with very fine, closely appressed pile of

about the same color. Head finely, rather sparsely punctured and finely granular, with a feeble median longitudinal carina (not always evident); eyes rather large, coarsely faceted, separated by about their own combined width; the antennae of moderate length, the fourth to eighth segments of funicle moderately serrate and of about equal width, the sixth to eighth a bit longer than broad, the eighth the longest, and the three terminal segments long and cylindrical, each about four times as long as broad and a bit narrower than the funicular segments. Prothorax broader than long, very convex, with lateral margin rather broad and reflexed and the disk with a small median carina in front of the scutellum, and densely punctured and granular. Elytra twice as long as broad, as broad at base as prothorax, with sides parallel and evenly rounded at apex, the striae shallowly and somewhat vaguely impressed on disk but well defined laterally, and distinctly though faintly punctured, the intervals flat and minutely rugose. Under surface minutely, densely punctured, rugose, and finely pubescent. Length 6 mm., breadth 2 mm.

Holotype (No. 5515, Mus. Calif. Acad. Sci., Ent.), and two paratypes, collected by myself in the CHISOS MTS., BIG BEND COUNTRY, TEXAS, July 5, 1942.

This species conforms with the generic characters of *Euvrilletta* as given by Fall, particularly as regards the outer funicular segments of the antennae, longer than broad, and the long and narrow terminal segments, and the feebly impressed elytral striae. From *xyletinoides*, the type species and only one previously described, it differs by being of a plumbeous color while the other is ferruginous, proportionately longer and narrower and the elytral striae more faintly impressed.

Xyletinus grossus Van Dyke, new species

Large, robust, form parallel, elytra piceous, head, prothorax, appendages and underside rufous, pile very fine, closely appressed, not dense. Head convex, feebly angulate medially, width between eyes twice diameter of single eye, surface finely, densely punctured; eyes moderately large and prominent; antennae about as long as prothorax is broad, segments third to tenth serrate, the third to eighth gradually longer, the ninth and tenth twice as long as broad and the eleventh narrow, fusiform and somewhat longer than tenth. Terminal segments of palpi subangulate, about one and a half times as long as broad and with inner edge broadly rounded. Prothorax about twice as broad as long, side margin narrowly reflexed in front, more broadly so behind, disk convex, not closely punctured and finely granular. Elytra about twice as long as broad, as broad at base as prothorax, finely striato-punctate,

the intervals feebly convex at most and minutely scabrous, and the general surface somewhat shining as a result of the sparse pubescence. Beneath finely punctured and pubescent, posterior raised margin of metasternum angulate. Length 6 mm., breadth 2.5 mm.

Holotype male, *allotype* female (Nos. 5516 and 5517, Mus. Calif. Acad. Sci., Ent.), and six *paratypes*, the holotype from the GREENHORN MTS., TULARE COUNTY, CALIFORNIA, May 7, 1931, as is also one paratype, the allotype and two paratypes from SEQUOIA NATIONAL PARK, CALIFORNIA, June 2, 1929, one paratype from IDYLLWILD, SAN JACINTO MTS., CALIFORNIA, June 17, 1941, all collected by myself besides one from MT. HAMILTON, E. S. Ross, collector, and one from the MIAMI RANGER STATION, SIERRA NATIONAL FOREST, CALIFORNIA, May 25, 1938.

The females are in general slightly more robust than the males, with shorter antennae and the outer segments less elongate.

This species is much the largest of our species and can be recognized readily not only by its size but by its bicolored and more or less shining appearance. It should be placed in the first grouping of species according to Fall's key and perhaps at the head of the species.

Xyletinus sequoiae Van Dyke, new species

Moderate in size, robust, form parallel yet rather stubby, rufopiceous, lighter beneath, and densely clothed with very fine, closely appressed pile which gives the insect a sericeous appearance when viewed in proper light. Head convex, width between eyes about four times diameter of single eye, densely, finely punctured and granular; eyes moderate in size, but not very convex; antennae about as long as greatest length of prothorax, outer funicular segments moderately serrate, of uniform width and about twice as broad as long, segments ninth and tenth serrate and approximately two times as broad as long and terminal segment narrower and fusiform. Terminal segment of palpi triangular but with inner margin broadly rounded. Prothorax broader than long, side margin narrow and reflexed, disk convex and densely punctured and rugose like the head. Elytra over twice as long as broad, as broad at base as prothorax, the striae distinctly, finely impressed and finely punctured, the intervals flattened, finely punctured and rugose. Beneath very finely, somewhat densely punctured and finely pubescent, the posterior raised margin of metasternum arcuate. Length 5 mm., breadth 2.25 mm.

Holotype (No. 5518, Mus. Calif. Acad. Sci., Ent.) and one paratype, the first collected at the POTWISHA CAMP, SEQUOIA

National Park, California, July 16, 1931, the second near the Kaweah power house, just outside the entrance to Sequoia National Park, July 15, 1930, by F. T. Scott.

This species superficially suggests *harrisi* Fall but is somewhat larger, darker and more opaque and has the sides of the prothorax behind broadly arcuate. It most likely belongs close to it.

Lucanidae

Platycerus agassizi pygmaeus Van Dyke, new subspecies

Somewhat similar to typical *agassizi* but generally smaller, shorter, more compact and convex, and of a dark greenish bronze color. Head less than 2 mm. broad, coarsely cribrately punctured and with the punctures to a great extent irregularly anastomosing; antennae short, club about equal in length to funicle, segments nine and ten only as broad as three outer funicular segments are long. Prothorax quite convex, finely, discretely punctured on disk, denser at sides, the margins moderately broad and reflexed but never as broad as they are in typical male *agassizi*, the sides arcuate and gradually wider to posterior third thence suddenly constricted to small right-angled hind angles. Elytra moderately convex, striae very finely impressed except at apex and more or less obliterated towards base, the punctures fine and irregularly disposed, not clearly limited to the striae and intervals as in typical specimens.

Holotype male (No. 5519, Mus. Calif. Acad. Sci., Ent.) and numerous designated *paratypes* from a series of fifty-nine specimens, collected at the Pygmy Forest, a region of stunted forest growing about the remains of an old sphagnum bog in a serpentine area, some four miles east of Mendocino City, and two miles inland from Fort Bragg, California, May 21, 1938. This region is a peculiar region as regards its ecology, numerous specialized forms of life being restricted to it.

This somewhat stunted subspecies when seen in series, stands out with great distinctness from specimens of more typical *agassizi* which are to be found in the areas of heavy forest both north and south of it. It appears to be a depauperized or retarded race which shows the lack of fully developed male characters, its antennae and all my specimens are males, being like those of female *agassizi*, not like the antennae with large, expanded clubs of the typical males. Its compact and more convex shape also accentuates the female peculiarities. The legs are, however, those of true males.

CERAMBYCIDAE

Centrodera arida Van Dyke, new species

Elongate, slender and quite delicately formed, rufocastaneous, head and prothorax darker, appendages lighter, the outer part of the antennal segments five to ten, black, and the eleventh with a black area near its apex, the surface sparsely clothed with short, fulvous pile. Head small, closely, finely punctured and rugose, and finely longitudinally impressed at middle; eyes prominent, coarsely faceted and separated above by a distance slightly over one-third the width of the head; antennae slender, reaching beyond apex of elytra, fourth segment barely three times length of second, fifth about equal in length to third and fourth combined. Prothorax as broad as long, finely punctured, narrowed in front and to a lesser degree behind, the disk with a very finely impressed longitudinal line at middle which becomes broader and deeper in front, and very finely, sparsely pubescent. Elytra at base over twice as wide as prothorax and two and a half times as long as broad, sides straight and feebly convergent towards rounded apex, disk moderately coarsely but not deeply punctured towards base and very minutely punctured on apical half and clothed with fine sparse pubescence. Beneath very finely densely punctured and sparsely pubescent. Length 13 mm., breadth 4 mm.

Holotype male (No. 5520 Mus. Calif. Acad. Sci., Ent.), a unique from the Blaisdell collection of the Academy, collected at DAVIS CREEK, MODOC COUNTY, CALIFORNIA, July 9, 1936.

This species much resembles *Centrodera blaisdelli* Van Dyke as regards its rather light color and delicate form but it differs by being much shorter, by the eyes much more widely separated, the pronotum convex posteriorly and not deeply sulcate medially, shining not opaque, and with the elytra much shorter and much more finely punctured generally. The type of *blaisdelli* is also a male and from the mountains east of San Diego where *arida* is from the semi-arid region east of the main Sierra Nevada Mountains. *Centrodera nevadica* differs by having the pronotum in most specimens deeply sulcate and coarsely rugose and rather densely pilose and the elytra very coarsely and densely punctured basally. It is also much more robust. Our other California species are all much more coarsely and densely pilose.

Since my review of the California species of the genus, I have been able to examine a larger series of *nevadica* and find it quite variable. The best developed have the pronotum broadly, deeply sulcate at the middle and generally with a fine median carina at the bottom of the depression.

STUDIES ON NORTH AMERICAN MORDELLIDAE, III[1]

(Coleoptera)

BY EUGENE RAY
Chicago, Illinois

This paper is the third of a series dealing with North American members of the family and is based on material from the same sources. Six new species from localities east of the Mississippi River are hereinafter described, in addition to new records of previously described forms.

Tomoxia latipalpis Ray, new species

(Figures 1, 11, 12)

Moderately elongate, subcuneate, sides converging beyond middle of elytra. Derm black, except for a narrow line along apex of front, clypeus, tips of mandibles, maxillary palpi, antennae, tibiae and tarsi of anterior and intermediate legs, base of posterior tibiae, posterior tarsi, and tip of anal style, which are flavocastaneous, with legs a little darker. Surface moderately densely covered with whitish pubescence; condensed on elytra to form two diagonal bands, the premedian one extending toward humeri and reaching suture, the other postmedian, reaching side margins but interrupted at suture; densely covering meso- and metasternum; narrowly along basal margins of abdominal segments and broadly at basal angles.

Head strongly convex, distinctly narrower than pronotum; eyes large, hind margin reaching occiput, surface densely covered with short, erect setae. Antennae .72 mm. long, not reaching base of pronotum; segments 1-2 large, equal; 3 small, as broad as long; 4 distinctly longer and broader than 3, one-third broader than long; 5-10 but slightly longer than broad, each one-third longer than 4 but no broader; 11 one-third longer than 10, oval, sides and apex rounded. Terminal segment of maxillary palpi greatly enlarged, somewhat boat-shaped, lateral edge and ends strongly rounded, mesal margin almost straight.

Pronotum distinctly broader than long (.94x.83 mm.), apex and sides strongly rounded, basal angles obtuse, base arcuate, mid-basal lobe short, but rounded. Scutellum small, subtriangular, apex broadly rounded.

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[1]Studies on North American Mordellidae, II. Pan-Pac. Ent., 32:41-50. 1946.

Elytra slightly more than twice as long as broad (2.08x.94 mm.), sides subparallel on basal half, subcuneate caudad, apices strongly, individually rounded. Anterior and intermediate tarsi as long as their tibiae, penultimate segment broadened, apical margin concave. Posterior tibiae with a short, subapical ridge and a long dorsal carina extending from subapical ridge to within one-fifth of base; basitarsi with a similar, less strongly indicated, carina. Anal style more than two and one-half times as long as apical ventral segment (.91x.38 mm.), fairly robust, attenuate to apex.

Length to apices of elytra, 2.91 mm.; to tip of anal style, 3.63 mm.

Holotype: ♂, ROYAL PALM STATE PARK, FLORIDA, July 27, 1940 (J. C. Bradley); in the collection of Cornell University, Type No. 2261.

Structurally this species is most closely allied to *Tomoxia discoidea* (Melsheimer).[2] It may, however, easily be separated by the completely black elytra, the narrower anal style, the broader terminal segment of the maxillary palpi, and the different antennae, which have segments three and four much shorter, the latter being broader than long.

CONALIA HELVA (LECONTE)

Glipodes helva LeConte, Proc. Acad. N. S. Phila., 1862, 14:48.
Conalia helva Liljeblad, Misc. Publ. Mus. Zool., Univ. Mich., 1946, 62:17.

Four specimens, Ocean Springs, Mississippi, May 30, 1931 (H. Dietrich); New Smyrna, Florida, April (M. Wright); and Tallulah, Louisiana, July 31, 1930 (P. A. Glick).

Conalia melanops Ray, new species
(Figures 6, 9)

Moderately robust, sides of elytra subparallel to within two-fifths of apex. Color black, a narrow line along apex of front, basal four-fifths of mandibles, clypeus, maxillary palpi, anterior legs, base and apex of intermediate femora, and a narrow line along base of pronotum fuscocastaneous; antennae varying from castaneous at base to fuscous at apex; suture of elytra narrowly rufocastaneous from base almost to apex. Surface densely covered with fine, recumbent fuscobrunneous pubescence, which, in certain lights, exhibits a yellowish tinge.

[2] Proc. Acad. N. S. Phila., 1846, 2:315.

Head broadly convex, distinctly narrower than pronotum; eyes entire, reaching occiput, densely covered with short, erect hairs. Antennae approximately 1.7 mm. long, not reaching base of pronotum; segments 1-2 large, equal; 4 one-half longer than 3 and slightly broader; 5-7 each one-third longer than 4, 5 much broader than 4, 6-7 decreasing in width; 8-11 missing. Terminal segment of maxillary palpi enlarged, with the form of a broad isosceles triangle, inner and apical sides equal, the latter and angles rounded.

Pronotum much broader than long (1.51 x 1.17 mm.), finely margined, apex and sides broadly rounded, basal angles obtuse, base arcuate, midbasal lobe short, broad, rounded. Scutellum small, triangular, apex rounded.

Elytra two and one-half times as long as broad (3.32 x 1.51 mm.), sides parallel on basal three-fifths, thence curved to apex, apices individually rounded. Posterior tibiae with a single long, oblique ridge extending from apical angle to within a fifth of base and a thin carina along dorsal edge; basitarsi with two short, equal, oblique ridges on apical half; remaining segments without ridges. Anal style short, robust, less than twice length of apical ventral segment (1.13x.68 mm.), truncate at apex.

Length: to apices of elytra, 4.49 mm.; to tip of anal style, 5.62 mm.

Holotype: ♀, DUPARQUET, QUEBEC, August 8, 1939 (G. Stace Smith); in the collection of Eugene Ray.

This species, the second of the genus to be recorded from North America under the emended classification of Liljeblad,[3] may easily be separated from *helva* (Leconte),[4] by the shorter, broader anal style, the more parallel-sided form, the shorter, rounded, midbasal lobe of the pronotum, the black color, by the antennae, of which the fourth segment is one-half longer than the third, the decrease in the width of antennal segments five to seven, and in the broader, terminal segment of the maxillary palpi.

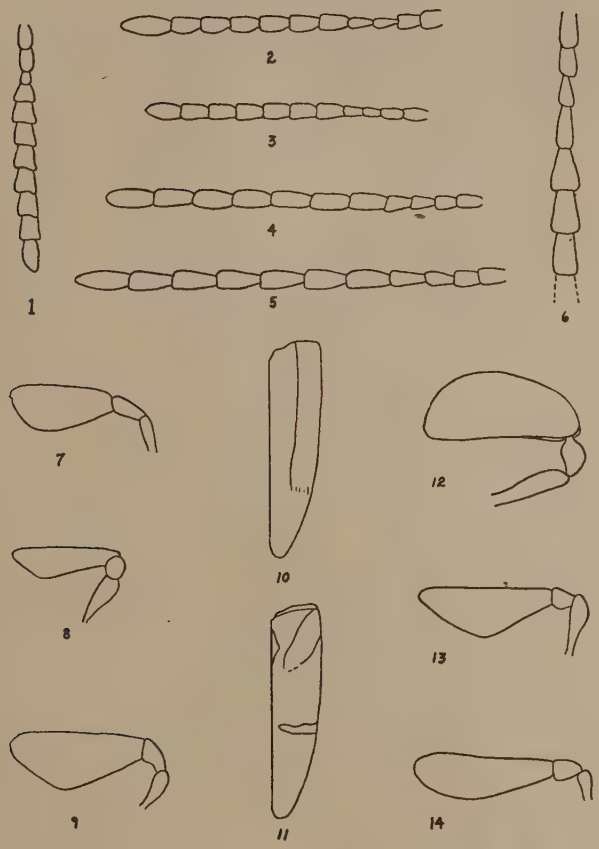
MORDELLISTENA FROSTI LILJEBLAD

Mordellistena frosti Liljeblad, 1918, Can. Ent., 50:156.

Two specimens, Duparquet, Quebec, June 25, 1937, on *Cornus* (G. Stace Smith). This species was originally described from a single specimen collected at Aziscoos Lake, Maine.

[3]Liljeblad, E. 1946. Monograph of the Family Mordellidae of North America, North of Mexico. Misc. Publ. Mus. Zool., Univ. Mich., No. 62, 229 pp., 7 pls.

[4]Proc. Acad. N. S. Phila., 1862, 14:48.



1. Antenna of *Tomoxia latipalpis*. 2. Antenna of *Mordellistena lateralis*. 3. Antenna of *Mordellistena hetercolor*. 4. Antenna of *Mordellistena dietrichi*. 5. Antenna of *Mordellistena mixta*. 6. Antenna of *Glipodes melanops*. 7. Maxillary palpus of *Mordellistena lateralis*. 8. Maxillary palpus of *Mordellistena dietrichi*. 9. Maxillary palpus of *Glipodes melanops*. 10. Elytron of *Mordellistena lateralis*. 11. Elytron of *Tomoxia latipalpis*. 12. Maxillary palpus of *Tomoxia latipalpis*. 13. Maxillary palpus of *Mordellistena heterocolor*. 14. Maxillary palpus of *Mordellistena mixta*.

Mordellistena picipennis Smith

Mordellistena picipennis Smith, Trans. Amer. Ent. Soc., 1882, 10:91.

One specimen, Gregory Ridge, Smoky Mts., Tennessee, June 17, 1939, altitude 3,000 feet (C. P. Alexander).

Mordellistena dietrichi Ray, new species
(Figures 4, 8)

Narrow, elongate, sides parallel to within one-third of apices of elytra. Color yellowish brown, except posterior legs and ventral body surface, which are fuscocastaneous. Surface densely covered with short, fine, recumbent yellowish pubescence.

Head strongly convex, semi-globose; eyes large, hind margin not reaching occiput, a V-shaped notch on anterior margin behind antennae, surface between facets with short, erect hairs. Antennae filiform, 1.49 mm. long, reaching beyond base of pronotum; segments 1-2 large, equal; 4 one-third longer and slightly broader than 3, together longer than 5; 5-10 each one-third longer and slightly broader than 4; 11 one-half longer than 10, broadest postmedially, sides and apex rounded. Maxillary palpi with three terminal segments enlarged; terminal segment elongate, subrectangular, apical margin diagonally truncate, angles rounded; penultimate segment rounded, almost circular; antepenultimate segment rounded cuneate, much broader at apex than at base, sides curved, apical margin concave.

Pronotum distinctly broader than long (1.17x1.06 mm.), sides and apex broadly rounded, basal angles obtuse, base arcuate, midbasal lobe broad, rounded. Scutellum broadly triangular, apex rounded.

Elytra elongate, narrow, three times as long as broad (3.02 x 1.09 mm.), sides subparallel from base to within a third of apex, thence strongly curved, apices individually rounded. Anterior and intermediate tarsi filiform, shorter than their tibiae, penultimate segment shortest, somewhat expanded, apex truncate. Posterior tibiae with two equal, oblique ridges, each extending half-way across outer surface (subapical one not included); basitarsi with three equal, oblique ridges, second segment with one. Anal style three times length of apical ventral segment (1.32 x .45 mm.), acuminate to apex, the latter pointed.

Length: to apices of elytra, 4.08 mm.; to tip of anal style, 5.4 mm.

Holotype: ♀, Lucedale, Mississippi, June 7, 1931 (H. Dietrich); in the collection of Cornell University, Type No. 2262.

This species is allied to the group that includes *picipennis* Smith[5], and *pallipes* Smith.[6] It is, however, very distinct from

[5], [6] Trans. Amer. Ent. Soc., 1882, 10:91, 92.

either of these forms. The color is much lighter, being yellowish brown, with the posterior legs and ventral surface darker, the antennae much longer, with the terminal segment extending beyond base of pronotum, the third and fourth segments together longer than the fifth, the very peculiar maxillary palpi, the three terminal segments of which are enlarged, and the peculiar eyes, which have a distinct, V-shaped notch on their anterior margins.

Mordellistena lateralis Ray, new species
(Figures 2, 7, 10)

Moderately narrow, subcuneate, sides of elytra subparallel on basal third. Color black, apex of front ferruginous, clypeus, anterior legs and intermediate femora fuscoferruginous. Surface densely covered with fine, recumbent pubescence, sericeous everywhere, except on mesal half of elytra, where it has a violaceous tinge, the latter expanding to cover entire apical fourth.

Head strongly convex, distinctly narrower than pronotum; eyes entire, surface densely covered with fine, short, erect hairs. Antennae 1.1 mm. long, not reaching base of pronotum; segments 1-2 subequal; 3-4 equal in length, the latter broader at apex; 5-10 each one-third longer and one-half broader than 4; 11 one-third longer than 10, oval, broadest premedially, apex narrowly rounded. Terminal segment of maxillary palpi enlarged, broadly securiform, apical edge with a slight concavity, mesal margin strongly curved from apex to base, latter edge slightly sinuate.

Pronotum distinctly broader than long (1.05x.91 mm.), finely margined, apex and sides broadly margined, basal angles obtuse, base arcuate, midbasal lobe broad, short, rounded. Scutellum small, apex and sides rounded.

Elytra two and one-third times as long as broad (2.44 x 1.05 mm.), sides subparallel on basal third, thence curved to apex, apices individually rounded. Anterior and intermediate tarsi filiform, slightly longer than their tibiae, penultimate segment shortest, not expanded. Posterior tibiae with two short, oblique, parallel ridges; basitarsi with three short ridges, second segment with two. Anal style two and one-half times length of apical ventral segment (.94x.38 mm.), robust, attenuate, blunt at apex.

Length: to apices of elytra, 3.35 mm.; to tip of anal style, 4.29 mm.

Holotype: ♀, SHAWNEETOWN, ILLINOIS, June 25, 1932 (Ross, Dozier and Park); in the collection of the Illinois State Natural History Survey.

From *syntaenia* Liljeblad,[7] its closest ally, this species may

[7]Can. Ent., 1921, 53:184.

immediately be separated by the bicolored elytral pubescence, which gives the effect of a single, broad, lateral cinereous stripe on the basal three-fourths of each elytron, by the ferruginous apex of the front and the fuscoferruginous anterior legs and intermediate femora, by the narrower terminal segment of the maxillary palpi and by the broader antennae, segments three and four of which are equal in length.

Mordellistena heterocolor Ray, new species
(Figures 3, 13)

Elongate, convex, sides subparallel. Derm of head, pronotum, four basal antennal segments and anterior and intermediate legs flavocastaneous; elytra, meso- and metasternum, abdomen and posterior legs and seven terminal segments of antennae fuscopiceous. Surface densely covered with fine, recumbent, golden pubescence.

Head convex; eyes emarginate on anterior margin. Antennae 1.02 mm. long, reaching base of abdomen; segments 1-2 small, subequal; 3-4 short, equal in length, the latter broader; 5-10 each one-half longer than 4, broader and flattened, although not serrate; 11 one-third longer than 10, broadest one-third distance from apex, sides and apex rounded. Terminal segment of maxillary palpi enlarged, with form of a broad, isosceles triangle, inner and outer edges straight, apical margin and angles rounded.

Pronotum convex, distinctly broader than long (.98x.83 mm.), outer edge completely and finely margined, sides and apex rounded, basal angles obtuse, base arcuate, midbasal lobe short, broad, slightly but distinctly emarginate. Scutellum broadly triangular, sides distinctly convex, apex rounded.

Elytra two and one-third times as long as broad (2.3x.98 mm.), sides subparallel on basal three-fifths, thence broadly curved to apex, apices individually rounded. Posterior tibiae with two ridges, basal one somewhat longer than other; basitarsi with three ridges, second segment with two. Anal style two and one-third times length of apical ventral segment (1.06x.45 mm.), moderately broad, evenly attenuate to apex.

Length: to apices of elytra, 3.13 mm.; to tip of anal style, 4.19 mm.

Holotype: ♂, Big Bayou, Florida, March 12, 1920 (H. W. Wenzel collection); in the collection of Ohio State University.

From its closest ally, *indistincta* Smith,[8] this species may be separated by the difference in the color of the pronotum and elytra, lack of a basal elytral spot, the bicolored antennae and

[8]Trans. Amer. Ent. Soc., 1882, 10:93.

legs, the isosceles terminal segment of the maxillary palpi and the emarginate basal lobe of the pronotum.

MORDELLISTENA SPLENDENS SMITH

Mordellistena splendens Smith, Trans. Amer. Ent. Soc., 1882, 10:93.

Two specimens, Beaufort, North Carolina, September 2 and 4, 1941 (A. C. Weed).

MORDELLISTENA RUFA LILJEBLAD

Mordellistena rufa Liljeblad, Can. Ent., 1917, 49:11.

One specimen, Alabama (H. W. Wenzel collection).

Mordellistena mixta Ray, new species
(Figures 5, 14)

Narrow, elongate, sides subparallel on basal half of elytra. Color black, clypeus, a narrow line along apex of front, and spurs of hind tibiae castaneous. Surface densely clothed with fine, recumbent pubescence, generally sericeo-cinereous, except on elytra, where it is mixed with pubescence that partakes of ground color.

Head strongly convex, distinctly narrower than pronotum; eyes entire, subquadrate from a lateral view, all except dorsal margin straight, surface densely covered with fine, short, erect hairs. Antennae 1.25 mm. long, reaching base of pronotum; segments 1-2 subequal; 4 one-third longer and distinctly broader than 3; 5 one-fourth longer and slightly broader than 4; 6-10 each as long as 5 but slightly narrower; 11 one-third longer than 10, ovate, broadest premedially, tip narrowly rounded. Terminal segment of maxillary palpi enlarged, with the form of an elongate, scalene triangle, outer margin slightly concave, inner edge straight, apical margin convex and shorter than other two sides, corners rounded.

Pronotum distinctly broader than long (.91 x .83 mm.), finely margined, apex and sides broadly rounded, basal angles obtuse, base arcuate, midbasal lobe broad, short, rounded. Scutellum small, subtriangular, apex broadly rounded.

Elytra two and one-third times as long as broad (2.19x.91 mm.), sides subparallel on basal half, thence curved to apex, apices individually rounded. Anterior and intermediate tarsi filiform, longer than their tibiae, penultimate segment shortest, not expanded. Posterior tibiae with three short, oblique, parallel ridges; basitarsi with four short ridges, second segment with two. Anal style but twice length of apical ventral segment (.91x.45 mm.), moderately robust, attenuate to apex, the latter blunt.

Length: to apices of elytra, 3.02 mm.; to tip of anal style, 3.93 mm.

Holotype: ♀, ZION, ILLINOIS, July 16, 1935 (DeLong and Ross); in the collection of the Illinois State Natural History Survey.

From its closest ally, *unicolor* LeConte[9], this species may be separated by the much longer and narrower antennae, which extend beyond base of pronotum, with the fourth segment one-half longer and distinctly broader than the third, the longer and narrower terminal segment of the maxillary palpi, with its concave lateral margin, and the shorter, but rounded basal lobe of the pronotum.

MORDELLISTENA INCOMMUNIS LILJEBLAD

Mordellistena incommunis Liljeblad, Can. Ent., 1921, 53:185.

Two specimens, Townsend, Tennessee, June 16 and 17, 1942 (C. H. Seevers and H. S. Dybas); one specimen, Huron County, Michigan, August 11, 1935 (R. R. Dreisbach).

MORDELLISTENA MASONI LILJEBLAD

Mordellistena masoni Liljeblad, Can. Ent., 1918, 50:157.

Two specimens, Stamford, Connecticut, July 19, 1927 (J. R. Hora) and Smokemont, North Carolina, June 25, 1935 (C. H. Seevers).

MORDELLISTENA FUSCIPENNIS (MELSHEIMER)

Mordella fuscipennis Melsheimer, Proc. Acad. N. S. Phila., 1846, 2:314.
Mordellistena fuscipennis Leconte, l. c., 1862, 14:50.

Two specimens, Rick's Branch, Eichorn, Illinois, June 24, 1932 (Ross, Dozier and Park) and Kampsville, Illinois, June 25, 1931 (Frison, Betten and Ross).

MORDELLISTENA VERA LILJEBLAD

Mordellistena vera Liljeblad, Can. Ent., 1917, 49:11.

One specimen, Caesar's Head, South Carolina, June 26, 1935.

MORDELLISTENA GIGAS LILJEBLAD

Mordellistena gigas Liljeblad, l. c., p. 13.

This species, originally described from a single female taken

[9]Proc. Acad. N. S. Phila., 1862, 14:50.

at Edgebrook, Illinois, is here represented by an individual taken at Ithaca, New York, July 18, 1935. The type has four ridges on its hind tibiae, the basitarsi have five, the second segment two and the third one, with a rudimentary ridge evident. The Ithaca specimen is a male and has but three ridges on the basitarsi. This, in addition to the smaller size, is the only difference between the two specimens. A specimen from La Trappe, Quebec, July 25, 1934 (J. Ouellet), also a male, has two distinct ridges on the third segment of the posterior tarsi.

MORDELLISTENA FUSCO-ATRA HELMUTH

Mordellistena fusco-atra Helmuth, 1864, Proc. Acad. N. S. Phila., 16:105.

This species, described from Illinois, is represented in material before the writer by a specimen from Whitehall, New York, June 26, 1934 (H. Dietrich). Due to previous loss of the type the above specimen is designated as *lectotype,* in the collection of Cornell University, Type No. 2265.

FRANK ELLSWORTH BLAISDELL, SR.
1862–1946

Dr. Frank E. Blaisdell, Sr., Research Associate in Entomology in the California Academy of Sciences, died at Watsonville, California, on July 6, 1946, at the age of eighty-four years.

Dr. Blaisdell was born in Pittsfield, New Hampshire, March 13, 1862. When he was eight years old the Blaisdell family moved to California and it was in California that Dr. Blaisdell pursued his medical career and his entomological studies.

Dr. Blaisdell graduated from Cooper Medical College in 1889 with the degree of Doctor of Medicine. He practiced for three years in San Diego and for eight years at Mokelumne Hill in Calaveras County. The rest of his professional life was spent in San Francisco on the faculty of Cooper Medical College (later the Stanford University School of Medicine) from which he retired in 1927, and as a research associate in entomology at the California Academy of Sciences where he continued active scientific work until late in 1945.

A full account of Dr. Blaisdell's life and works will appear in a later issue of this journal.

A NEW SUBSPECIES OF BUPRESTIS
(Coleoptera, Buprestidae)

BY J. R. HELFER
Mendocino, California

Buprestis salisburyensis cazieri Helfer, new subspecies

Holotype, adult female. Medium sized, length 14 mm., width 5.5 mm., elongate oval, widest at anterior fourth and posterior third of elytra and equally wide at these two points; head, thorax and elytra dark greenish, head and thorax pronouncedly suffused with purplish, elytra with central portions dark purple becoming dark green at suture and side margins to apices; body beneath dark greenish with some purplish at sides of prosternum. *Head* marked by a slight frontal longitudinal ridge reaching from vertex to middle of front, closely coarsely punctate, punctures separated by about one-third of their widths, mandibles similarly punctate; labrum partly brownish becoming metallic greenish centrally; first segment of antennae brownish proximally and metallic greenish distally, other segments dark, metallic; eyes elongate oval, blackish flecked with gold; palpi brownish; all parts except eyes rather sparsely evenly clothed with white hairs. *Prothorax* length 2.5 mm., width 4.75 mm., widest at base, slightly arcuately, evenly narrowed from base to apex, closely coarsely punctate, less closely punctate toward center but with no smooth center line or impression except for a small ante-scutellar pit; a slight depression at each side near base; anterior margin mostly smooth, slightly raised, posterior margin smooth; scutellum distinct, concave, rounded anteriorly, angulated posteriorly, hairless, dark green. *Elytra* distinctly wider than prothorax; humeral umbones distinct, apices entire with slight sutural tooth; vestigial costae evident basally and a distinct sublateral costa strongest from anterior third to posterior third; vestigial costae otherwise all but obliterated by coarse punctures in rows; intervals densely coarsely punctate. *Ventral surface*: prosternum coarsely punctate, sparsely evenly clothed with white hairs; prosternal spine concave, smooth at sides, more hairy at apex; abdomen rather finely punctate, uniformly clothed with white hairs, last segment broadly rounded at apex; legs metallic dark green with white hairs.

Allotype, adult male. Similar to female but smaller, length 11.5 mm., width 4.25 mm., and with purple color more vivid; fore tibiae simple, entire.

Habitat. Greenwood Lake, New Jersey, to Bear Mountain, New York.

Described from 1 female holotype collected at BEAR MT., N.Y., May 29, 1927, by F. M. Schott, 1 male allotype collected at the same locality June 13, 1925, also by F. M. Schott, and 31 paratypes collected at GREENWOOD LAKE, NEW JERSEY, FORT MONTGOMERY, N. Y., and BEAR MOUNTAIN, N. Y., in the months of May and June in the years 1924 to 1931 inclusive, by A. Nicolay and F. M. Schott.

The paratypes vary considerably in color, several being more greenish than the holotype and allotype but all are characteristically dark and more or less purplish in color, this being the only character distinguishing *cazieri* from typical *salisburyensis.*

In addition to the specimens mentioned above, specimens of subspecies *cazieri* have been studied in the following collections: American Museum, 3 ex. Greenwood Lake, New Jersey; U. S. National Museum, 8 ex. Greenwood Lake, New Jersey and Fort Montgomery, New York; Fall collection, 1 ex. Greenwood Lake, New Jersey; Cazier collection, 1 ex. Greenwood Lake, New Jersey; California Academy of Sciences, 1 ex. Greenwood Lake, New Jersey.

Typical green *salisburyensis* Herbst with coppery suture and side margins have been noted from Westville, Seal City, Iona, Menatico, High Point, Manchester, and Greenwood Lake, New Jersey; Bear Mountain, New York; Deer Lodge, Tennessee; Michigan, Pennsylvania, and Maryland. Nicolay and Weiss also record the species, presumably the green form, from Georgia, North Carolina and Wisconsin.

There are blue specimens having coppery suture and side margins which are possibly recurrent variants throughout the range of the species. Examples of this color variant have been noted only from Lakehurst, Greenwood Lake, and Malaga, New Jersey.

Casey and LeConte both used the name *ultramarina* for the green form. In the LeConte collection one specimen labeled only "N. J." is purplish deep blue in color but is not as dark as typical specimens of subspecies *cazieri.* This is the closest thing to an intergradational form that has come to light thus far.

The dark form is apparently restricted as shown to the region between and around Greenwood Lake, New Jersey, and Bear

Mountain, New York, with typical green *salisburyensis* occurring in this same region but also having a far wider range extending to our Southern States.

I take pleasure in dedicating this interesting subspecies to Mr. Mont A. Cazier.

Holotype will be deposited in the California Academy of Sciences collection, paratypes in collections of American Museum and U. S. National Museum, allotype and remaining paratypes in collection of writer.

SOME FOOD HABITS OF FERONIA ATER DEJEAN

(Coleoptera, Carabidae)

Feronia ater Dejean 1831 (*Pterostichus, Holciophorus*). Washoe County (*Truckee Meadows*, XII/39, 1/40, el. 4,500 ft.—LaR). This large and active dendrophilous species is very common in the Jeffrey pine forest (*Pinus ponderosa jeffreyi* Vasey) in the vicinity of Reno, Nevada (Truckee Meadows). Perhaps the most massive and well-mandibled of Nevada carabids, it is an avid predator in decaying stumps, logs and standing trees, and is not found, except accidentally, beyond the limit of timber. I have found adults feeding on the larvae of *Alaus melanops* LeConte (Elateridae), *Iphthimus serratus sublaevis* Bland, *Coelocnemis dilaticollis californicus* Mannerheim (Tenebrionidae), and small *Ergates spiculatus* LeConte (Cerambycidae). Imagine victims included *Brochymena hoppingi* (Pentatomidae), *Sandalus scabricollis* Haldeman (Sandalidae), *Platycerus depressus marginalis* Casey (Lucanidae), and various species of termites. Its specific destruction of *Zootermopsis nevadensis* (Hagen) in the Mt. Lassen area of northern California has been previously recorded by E. G. Linsley and C. D. Michener (Pan-Pac. Ent., 19(2):75, 1943). The strong odor *ater* emits when disturbed is more potent than that of the large associated tenebrionids (*Coelocnemis* and *Eleodes*), and seems to render it relatively immune from most insectivorous animals, although I once took fragments of an *ater* from the stomach of a skunk, *Mephitis mephitis major*.—IRA LA RIVERS.

IXODES HOLDENRIEDI, A NEW SPECIES OF TICK FROM A POCKET GOPHER IN CALIFORNIA[1]

(Acarina, Ixodidae)

BY R. A. COOLEY
Senior Entomologist, United States Public Health Service

Two partly engorged female ticks from *Thomomys bottae* recently received from Mr. Robert Holdenried of The George Williams Hooper Foundation, University of California, represent a new species of *Ixodes*. The description follows:

Ixodes holdenriedi Cooley, new species

Female

Capitulum. Length from tips of cornua to tip of hypostome, 0.55[2]; width of basis, 0.36. Cornua very small, short, pointed. Posterior margin mildly concave; edge salient. Porose areas large, widely separated, and near the posterior and lateral margins of the basis. Palpi long, outer margins nearly straight, inner margins convex; widest at about the middle.

In ventral view, basis broad, flattened, broadly rounded behind and salient, its edge mildly reflexed. Auriculae absent. Transverse sutural line distinct. Palpi flattened on their inner sides; article 1 with a small convex plate.

Hypostome. Narrow, tapering, pointed. Dentition 3/3 for about two-fifths the length, then 2/2 to the base; denticles of laterals and files 2 about equal in size. Length about 0.29.

Scutum. Length, 1.02 to 1.05; width, 0.84 to 0.90. Oval, widest a little anterior to the middle. Lateral carinae distinct, extending from the thin, pointed scapulae to the postero-lateral margins, more declivitous on their median (inner) sides. Cervical grooves absent. Punctations distinct, fine, numerous. Hairs absent.

Legs. Legs short. Length of tarsus I, 0.40; metatarsus, 0.27. Length of tarsus IV, 0.42; metatarsus, 0.30.

Coxae. Mildly convex, hairs very few. Coxa I with two spurs subequal in length, internal spur a little narrower; II and III with a distinct external spur, similar to that on I; IV with spurs absent.

Spiracular plate. Short oval with longer axis transverse. Goblets moderate in size and number. Length, 0.20; width, 0.17.

Genital aperture. At about the level of the intervals between coxae II and III.

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[1] From the Rocky Mountain Laboratory (Hamilton, Mont.), National Institute of Health.

[2] All measurements in mm.

This new species, because of size, small mammalian host, and locality, suggests both *I. jellisoni* and *I. peromysci.* From the former, *holdenriedi* is readily distinguished by the presence of lateral carinae, more pointed hypostome, and the short internal spur on coxa I; and from the latter, by the more pointed hypostome, broader basis in ventral view, and complete absence of auriculae.

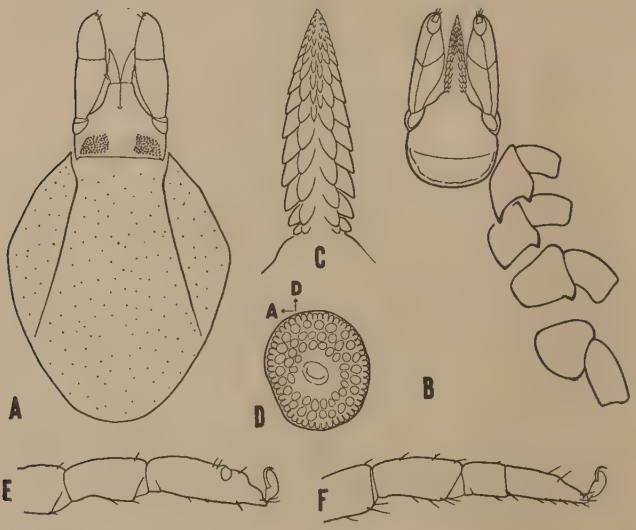


Figure 1. *Ixodes holdenriedi,* n. sp. Female. A. Capitulum and scutum, dorsum. B. Capitulum and coxae, venter. C. Hypostome. D. Spiracular plate. E. Tarsus and metatarsus, leg I. F. Tarsus and metatarsus, leg IV.

Holotype. Female, No. 21751, ex *Thomomys bottae,* FITCH MOUNTAIN, three miles east of HEALDSBURG, SONOMA COUNTY, CALIFORNIA, March 25, 1945, M. Hobmaier, collector.

Paratype. Female, No. 21751, same data as holotype.

Holotype deposited in the collections of the Rocky Mountain Laboratory, Hamilton, Montana. Paratype deposited in the U. S. National Museum, Washington, D. C.

SYNOPSIS OF COPTOPHLEBIA, WITH DESCRIPTIONS OF NEW AMERICAN AND ORIENTAL SPECIES

(Diptera, Empididae)

BY A. L. MELANDER

Research Associate, University of California, Riverside, California

In 1909 Dr. Mario Bezzi erected the subgenus *Coptophlebia* of the genus *Empis* as a rather well limited group mainly characterized by having the fourth vein incomplete. Some of the species show great sex dimorphism, especially those whose females have developed elaborate rows of scales on various parts of the legs. This diversity in the sexes makes it difficult to associate the females with their appropriate males. There are some fourteen species occurring in Europe, several in Africa, a dozen described from the Orient and nine from North America. I have four additional species from America, which prompted the present study. Among some Oriental flies received from Professor J. L. Gressitt there are several undescribed Coptophlebias, which for convenience have been added to the key. It seems that in the Orient the range of permutations of characters will afford an abundant supply of species of this group.

The species here considered agree closely in the chaetotaxy of the head and body, but differ widely in the bristles of the legs. In general, the occipital hairs are rather sparse and short and the thoracic bristles are fine, with almost no dorsal hairs between. Usually there are 1 hum, 1 phum, 2 or 3 npl, 1 sa, 1 pa, and a pair of cruciate sc. The size and number of do and ac hairs should be noted.

The types of the new species are in my collection, except those of *anthophila* and *thyasotes*, which are in the United States National Museum.

KEY TO THE AMERICAN AND THE NEW ORIENTAL SPECIES OF COPTOPHLEBIA

1. Males: eyes contiguous; legs not squamose.....2
– Females: eyes separated; legs often squamose.....17

2. Front metatarsus produced beyond insertion of second joint as a finger-like apophysis; bristles and hairs of body whitish, no acrostichals; body heavily white-cinereous; wings hyaline, veins pale; halteres pale yellow; antennal style as long as third joint. (Ont., Alta.) ..... *dactylica*, n. sp.

– Metatarsus not produced over second joint; bristles and hairs blackish, acrostichals biseriate, sometimes very sparse; body black, more or less shining 3

3. Wings hyaline but spotted with brown; anterior branch of third vein perpendicular, discal cell truncate 4

– Wings more or less uniformly hyaline or brownish, but not spotted; anterior branch of third vein usually somewhat curving to costa 5

4. Fourth vein with a spur near middle of second posterior cell, marginal cell at stigma wider than submarginal, first submarginal cell open; pygidium large and globose (Mex.) ..... *spiloptera* Wiedeman

– Fourth vein without spur; first submarginal cell usually closed, stigma elongate, narrow, apically tapering far from end of cell, marginal cell at stigma not wider than submarginal; pygidium small. (Ohio, S. Dak., Mo., Tex.) ..... *clausa* Coquillett

5. Sixth sternite produced backwards as a long narrow process tipped with hairs (Fig. 3), seventh sternite with a strong ventral apophysis, penis-sheath large and with posterior fringe of long hairs; coxae, femora and anterior tibiae luteous, tarsi and hind tibiae fuscous, densely hairy. (Tex.) ..... *plectrum* n. sp.

– No ventral processes on abdomen; legs piceous or black, except in *dolorosa* 6

6. Anterior metatarsi slender, as long as their tibiae; submarginal cells wider than first posterior cell, third vein strongest and ending beyond wing-tip; palpi yellow; body of pygidium with coarse downward-directed bristles (Fig. 2), the valve with a single heavy incurved bristle above toward base and with deflected fleshy terminal flap 7

– At least middle metatarsi much shorter than their tibiae; first submarginal and first posterior cells subequal in width, third vein scarcely thicker than second and ending at wing-tip; pygidium of other structure 8

7. Proboscis 2.5 times as long as head-height. (Conn., Ga., Tex.) ..... *distans* Loew

Proboscis 4 times as long as head-height. (D.C.) ..... *labiata* Loew

8. Pygidium more or less obliquely ascending or minute; legs rarely excessively hairy, usually with bristles, all metatarsi rarely thicker than their tibiae 9

– Pygidium large and globose (Fig. 6), lateral valves hemispherical; legs without bristles but with abundant very long fine hairs especially on posterior tibiae and the tumid metatarsi. (Col., N. Mex.) (*hirtipes* Coq., not Wied.; *tenebrosa* Coq. 1903 not 1895) ..... *hirticrus* Melander

9. Anal vein reaching margin, wings more or less infumated; penis yellow 10

– Anal vein evanescent, stopping much before margin; wings hyaline or nearly so; penis usually black or fuscous 13

10. Middle legs and front femora luteous; metatarsi not dilated; hairs rather sparse. (Mex.) ..... *dolorosa* Wheeler and Melander

– Legs piceous or black 11

11. Third vein forked before end of second vein, sections of fifth vein equal; legs hairy rather than bristly, the tibiae and tarsi with setae, underside of middle femora with full double row of very long setiform hairs, front metatarsi tumid, the three following joints spherical. (Tex.) ..... *asema* Melander

– Third vein forked opposite or beyond end of second vein, last section of fifth vein longer than preceding; legs bristly rather than hairy, the hairs of legs in general short, front metatarsi slender 12

12. No flexor setae on distal half of middle femora. (Mex.) ..... *totipennis* Bellardi

– Flexor setae of middle femora extending almost to apex. (Tex., N. Mex.) (If middle femora have only 2 or 3 flexor hairs and upper edge of middle valve of pygidium is not deeply excised, see *impar*, couplet 15.) ..... *anthophila*, n. sp.

13. Front tarsi not feathered 14

– Front tarsi greatly deformed, the last three joints wider than long, the third and fourth joints tipped above with long close-set transverse fringe of black hairs. (China) ..... *ostentator*, n. sp.

14. Front metatarsi nearly as long as their tibiae, the hairs long, hind tarsi with first three joints somewhat tumid, hind tibiae long-ciliate beneath; wings lightly infumated. (Java) ..... *thiasotes*, n. sp.

– Front metatarsi much shorter than their tibiae; wings glassy hyaline 15

15. Lateral valves of pygidium fused above, penis nearly as thick at end as at base. (Costa Rica) ..... *impar*, n. sp.

– Valves of pygidium not fused, penis very thin 16

16. Legs with few hairs, the bristles shorter and stronger; pygidium minute and closed; sections of fifth vein equal. (China) ..... *sinensis*, n. sp.

– Legs with many hairs and very long radiating setae; pygidium vertically gaping (Fig. 5); penultimate section of fifth vein somewhat longer than ultimate. (China) ..... *hyalea*, n. sp.

17. Anal angle of wing not developed; body and legs testaceous, thorax marked with three pairs of velvety-black spots; front opaque. (China) ..... *poecilosoma*, n. sp.
– Anal lobe full, set off by an acute axillar notch; body and legs black; front shining (dull only in *squamipes*) 18
18. Wings hyaline, spotted with brown along crossveins, etc., anterior branch of third vein perpendicular; legs heavily pennate with scales 19
– Wings not spotted, more or less uniformly fuliginous or hyaline 20
19. Fourth vein with spur near middle of second posterior cell, second vein curving forward at tip to end much before anterior branch of third vein. (Mex.) ..... *spiloptera* Wiedemann
– Fourth vein without spur, second vein nearly straight and receiving anterior branch of third vein. (Ohio, S. Dak., Tex.) ..... *clausa* Coquillett
20. Some of the legs bearing large scales 21
– Legs devoid of pennate scales; anal vein evanescent. (China) 30
21. Third vein ending beyond wing-tip, its anterior branch forming almost an equilateral triangle of the second submarginal cell 22
– Third vein ending at wing-tip, its anterior branch forming the shortest side of the second submarginal cell 23
22. Only the four posterior femora and tibiae with scales on both sides (D. C.) ..... *labiata* Loew
– Front tibiae except at base and four posterior femora pennate on both edges, the four posterior tibiae usually pennate above only; second basal cell much longer than first and pointed, the sections of fifth vein about 1:2. (Conn., Ga., Tex.) ..... *distans* Loew
23. Anal vein attaining margin, wings more or less darkened 24
– Anal vein evanescent, not reaching margin, wings hyaline at least posteriorly; hind femora and tibiae heavily squamose on both edges 28
24. Front femora and hind tibiae not pennate, scales elsewhere short; proboscis about four or five times head-height. (Col., N. Mex., Ariz.) ..... *hirticrus* Melander
– Front femora with scales below, scales of posterior femora and tibiae long; proboscis shorter 25
25. Metatarsi with scales above; underside of discal cell much shorter than last section of fifth vein, posterior crossvein oblique, third vein forked nearly opposite end of second vein, wings distinctly infumated. (Tex., N. Mex.) *anthophila*, n. sp.
– Metatarsi without scales 26
26. Third vein forked much beyond end of second vein, its anterior branch nearly perpendicular, sections of fifth vein equal; alulae black. (Costa Rica) ..... *impar*, n. sp.

– Third vein forked nearly opposite end of second vein, its anterior branch oblique; alulae fuscous 27

27. Underside of the rather blunt discal cell as long as last section of fifth vein and much longer than posterior crossvein; hind metatarsi less than half as long as their tibiae and almost without setae; wings subhyaline. (Tex.) (If underside of discal cell is but slightly longer than posterior crossvein, see *anthophila*, var.) ..... *asema* Melander

– Underside of discal cell shorter than last section of fifth vein and about equal to the oblique posterior crossvein, wings distinctly infumated; hind metatarsi fully half as long as their tibiae and provided with coarse hairs and setae above. (Mex.) ..... *totipennis* Bellardi

28. Front polished; front legs without scales; proboscis 2.5 times as long as head-height 29

– Front opaque; underside of front femora and apical third of outer side of front tibiae with narrow scales, middle femora and tibiae heavily squamose; proboscis 5 times the head-height. (Mex.) ..... *squamipes* Coquillett

29. Middle femora squamose above only, middle tibiae not scaled; wings subhyaline. (China) ..... *ostentator*, n. sp.

– Middle femora and tibiae heavily squamose on both edges, hind metatarsi with scales above; wings infumated. (Hainan Island) ..... *multipennata*, n. sp.

30. Extensor bristle near middle of hind metatarsus at least twice the diameter of the joint. (China) ..... *hyalea*, n. sp.

– Extensor bristle near middle of hind metatarsus about as long as diameter of the joint. (China) ..... *sinensis*, n. sp.

DESCRIPTIONS OF NEW SPECIES OF COPTOPHLEBIA

A. North American Species

Empis (Coptophlebia) anthophila Melander, new species

Black or more or less piceous, lightly gray-pruinose. Proboscis about three times the head-height. About twelve irregularly biseriate dorsocentrals, a very few hairs on humeri, metapleural hairs bunched. Abdominal hairs long, fine and loose; lateral valves of pygidium excised apically (Fig. 4) below which the broadly triangular extension infolds over the penis. Middle tibiae with five long extensor bristles, hind femora with an antero-dorsal row of twelve setae, the hind tibiae with a double extensor row of about twelve long setae and underneath with a full series of about twenty-six setulae which become longer on apical half, anterior tarsi setulose and openly setose, hind metatarsi with plantar setulae and long-setose above, stouter than the anterior metatarsi. Wings lightly infumated, subhyaline, stigma very weak, veins

fuscous, paler toward base, third vein forked beyond end of second vein, last section of fifth slightly though distinctly longer than preceding section, the ratio 6:7; alulae fuscous, fringe black. Length 5.5 mm.

Female. Abdominal hairs short, about half as long as the intermediate segments. Scales of femora and tibiae strong, absent on upper side of front femora, hind metatarsi about half as long as their tibiae, with four or five bristles in addition to the dorsal scales.

Holotype and *allotype*: Rio Ruidoso, White Mountains, New Mexico, alt. 6500 feet, 22 VII (C. H. T. Townsend, U.S.N.M.). *Paratypes*: twelve males and twelve females with the type lot and from Las Vegas Hot Springs, New Mexico, 11 VIII (H. S. Barber), Roziada, New Mexico, 8 VIII (T. D. A. Cockerell), "Texas" (G. W. Belfrage) and Austin, Texas, 1 V (ALM). Professor Townsend collected the White Mountains specimens from flowers of *Rhus glabra*, *Solidago trinervata*, *Prunella vulgaris*, *Eriogonum vegetius* and *Potentilla hippiana*.

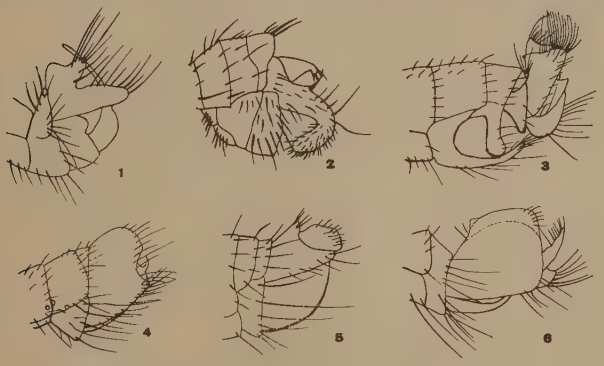
Four females, taken with the others at Rio Ruidoso and undoubtedly belonging with them, show a leaning toward *asema* in that the metatarsi lack scales and the wings are subhyaline with the sections of the fifth vein more nearly subequal. However, they can be distinguished from *asema* in that the hind metatarsi are fully half the length of their tibiae and show three or four exterior bristles, and the underside of the discal cell is only slightly longer than the posterior crossvein.

Asema, *anthophila* and *totipennis* form a group of closely related species which are not easy to separate unless one has specimens of all in order to check relative differences.

Empis (Coptophlebia) dactylica Melander, new species

Male. Black, densely coated with cinereous pollen which is almost white on abdomen; hairs and bristles of head, body and femora white. Antennae black, third joint lanceolate and not excised below, two and one-half times as long as basal depth and equal to the basal joints together; proboscis three times the head-height. Dorsocentrals in two diverging rows, the rear two longer; a small lateral bristle on scutellum in addition to the apical cruciate pair; the usual lateral notal bristles are long and delicate, with very few small scattered hairs between, humeri with seven hairs. Vestiture of abdomen rather abundant, the hairs of intermediate segments one-third the length of the segments; pygidial valves black, not cinereous, small and widely open, the middle valve deeply excised above

(Fig. 1), almost splitting it in two; penis pale yellow, short, slender, erect, slightly bent forward at middle above the pellucid bulbous base. Legs slender, piceous, not pollinose, hairs pronounced and dark, more conspicuous on extensor side of front legs, the hairs of femora short and pale; front tibiae with outstanding hairs, posterior tibiae with inconspicuous hairs, each with about three longer hairs on extensor side; all tarsi more slender than their tibiae, second joint of tarsi half as long as the metatarsi, the two together as long as their tibiae, front metatarsi continued beyond insertion of second joint as a dorsal hairy process three-fifths the



PYGIDIAL CONFORMATIONS IN COPTOPHLEBIA

Fig. 1, *dactylica*, n. sp. Fig. 2, *labiata* Loew (cotype). Fig. 3, *plectrum*, n. sp. Fig. 4, *anthophila*, n. sp. Fig. 5, *hyalea*, n. sp. Fig. 6, *hirticrus* Melander.

length of the second joint, above with long setose hairs, those of the terminal process forming an appressed apical brush in the Alberta specimens, but the type with only two diverging long apical setae. Wings hyaline, veins light brown, stigma colorless, discal cell subequal in length to the intercalary vein, third vein forked a little beyond end of second vein, the branch straight and oblique, sections of fifth vein proportioned 4:5, anal vein thin but reaching margin; halteres, alulae and root of wing whitish yellow. Length 4 mm.

Type: CHARLTON, ONTARIO, 29 July, 1930 (H. S. Parish, collector). *Paratypes*: another male taken with the type and four males collected by Professor E. H. Strickland, at NORDEGG, 26 July, 1936, and WABAMUN, 2 August 1938, all in ALBERTA. The species name refers to the prominent finger-like process of the front tarsus.

The discovery of a white-haired *Coptophlebia* necessitates renumbering part of the table of *Empis* in the Transactions of the American Entomological Society, XXVIII, on page 284. The second part of couplet 1 should lead to 31 in order to consider the Coptophlebias before the white-haired species. Then the second half of couplet 31 on page 286 should lead to 21 on page 350 and the second half of that couplet should lead back to 39 on page 286.

Empis (Coptophlebia) impar Melander, new species

Male. Black, lightly gray-pollinose. Center of face shining; antennae missing; proboscis twice as long as head-height. Ten dorsocentrals, two scutellars. Abdomen nearly bare; pygidium obliquely ascending, the valves slightly emarginate apically, the caudal apex with infolded comb surrounding the penis. Front femora bare, middle femora with three or four posterior setae; front tibiae with only a small preapical seta, middle tibiae with a long flexor seta at two-fifths, a long extensor seta at the middle and a long preapical seta, hind tibiae with about eight long extensor setae and closely setulose within; front metatarsi three-fifths as long as tibia and with only a few setulae, middle tarsi slender, the metatarsi two-fifths the tibial length, hind metatarsi somewhat.tumid Wing-veins fuscous, upper side of discal cell and first and second posterior veins very faint, third vein forked much beyond end of second vein, the branch erect and straight, the costal ratio of the two submarginal cells 1:3, sections of fifth vein equal, anal vein represented by a fold; halteres piceous, alulae fuscous, the hairs black. Length 3.75 mm.

Holotype: PEDREGOSA, COSTA RICA, collected by D. L. Rounds.

Two females from La Suiza de Turrialba, Costa Rica, April 1922, received from Pablo Schild, may be assigned to this species, in lack of information to the contrary. They differ, of course, strikingly in the dimorphic characters, such as the pennate legs and infumated wings, but otherwise agree fairly well. Both front and face shining; third antennal joint constricted beyond the pyriform base, the style one-half the length of the third joint; proboscis three times the head-height. Underside of front femora with short close scales, both sides of posterior femora heavily scaled, both sides of front tibiae with moderate closely-set scales, outer side of middle tibiae and inner side at base closely pennate, both edges of hind tibiae heavily pennate. Wings dark fuscous, fourth vein thin but evident, basal half of anal vein chitinized, becoming evanescent to margin.

Empis (Coptophlebia) plectrum Melander, new species

Male. Black, almost shining, the occiput and thorax very lightly cinereous. Third antennal joint slender, lanceolate, not excised below, four times as long as depth, the style half the length of the third joint; proboscis three times the head-height. Four scutellars, the lateral ones two-thirds the length of the apical pair, acrostichals very sparse. Hairs of abdomen delicate, short and scattered; pygidial valves not excised above, apically with a crowning comb of incurving hairs (Fig. 3). Middle femora setose beneath, otherwise the legs without setae, the usual series of about a dozen under the hind femora represented by delicate hairs, extensor hairs of tibiae close, those toward apex about three times the diameter of the joint, front and hind metatarsi swollen, the hind ones three-fifths the length of the tibia. Wings moderately infumated, veins dark castaneous, scarcely paler at base, stigma very long, brown, filling the apical two-fifths of marginal cell, third vein forked much before end of second vein, the branch nearly straight, at an angle of sixty degrees, the costal ratio of the two submarginal cells 1:4, sections of fourth vein proportioned 1:3.5:6, of fifth vein subequal, anal vein very weak, subinterrupted before end; halteres and alulae dark fuscous. Length 3.5 mm.

Holotype: AUSTIN, TEXAS, October, 1899 (A. L. Melander).

B. Oriental Species

Empis (Coptophlebia) hyalea Melander, new species

Male. Black, thorax distinctly dusted with gray, scarcely shining, notal bristles long. Hairs of occiput sparse but rather long, placed in two whorls; third antennal joint emarginate below, the style half as long as the third joint; proboscis twice as long as head-height. Five dorsocentrals, only two pairs of acrostichals, two scutellars, seven metapleural hairs, a pair of long setae on prescutellar area inside the dorsocentral rows. Abdomen subshining, hairs black; upper valves of pygidium small, almost semicircular, lower valves vertical, triangular, hairy posteriorly, penis free, arcuate, thin, usually brown (Fig. 5). Legs piceous, the knees and bases of joints of middle tarsi paler, apex of hind tibiae and hind tarsi incrassate; front femora bare, middle femora beneath with a very long seta at two-fifths as well as a loosely spaced double series of fine hairs, hind femora above with decumbent hairs becoming coarser apically, beneath with open double row of fine hairs and on outer side with three or four rather long setae; hairs of front tibiae coarse and setiform on distal half, of posterior tibiae mixed with excessively long radiating setae; all tarsal joints except the fifth with excessively long setae, even on plantar faces, the front metatarsi three-fifths as long as their

tibiae, middle metatarsi two-fifths the length of their tibiae and equal to the next joint, hind metatarsi nearly three-fifths their tibiae; pulvilli golden. Wings glassy hyaline, stigma almost invisible, veins pale yellow, the posterior veins translucent, third vein branched beyond end of second vein, the branch perpendicular but arcuate, the costal ratio of the submarginal cells 1:3.5, anterior crossvein at basal sixth of the discal cell; stem of halteres fuscous; alulae pale yellow, the fringe brown. Length 3.25 mm.

Female. Wings fuliginous, veins fuscous, alulae pale fuscous. Legs simple, not incrassate and not squamose, the setae greatly reduced and normal.

Holotype: Tsin Leong San, E. Kwantung, S. China, 5 June 1936 (J. L. Gressitt); *allotype*: same, 7 June. *Paratypes*: seventeen males and fourteen females, same, 1 to 7 June.

Apparently close to the Formosan *E.* (*C.*) *tenuinervis* Bezzi, which however is shining black, has a straight fork to the third vein, elongated pygidial valves and much longer proboscis.

Empis (Coptophlebia) multipennata Melander, new species

Female. Black, lightly pollinose. Front polished, face shining, occipital hairs short and sparse; third joint of antennae emarginate below, the style two-fifths as long as the third joint; proboscis twice the head-height, dark fuscous. Six moderately long dorsocentrals, the acrostichals few, moderately long and biseriate, two scutellars. Abdomen shining, the hairs sparse, short and black. Front tibiae and metatarsi coarsely setulose dorsally, all metatarsi two-thirds as long as their tibiae, the hind ones slightly inflated, with incipient scales above toward base and with a long seta at basal third plus a pair of long preapical setae, second joint of hind tarsi with a pair of dorsal setae; hind tibiae with a pair of preapical setae which are twice as long as the diameter of the tibia. Wings with stigma scarcely indicated, veins dark fuscous to root of wing, the first three veins heavy, the fourth and interstitial veins weak, third vein forked much beyond end of second, the branch arising perpendicularly but arcuate, costal ratio of submarginal cells 2:3, anterior crossvein at basal sixth of discal cell, sections of fifth vein equal; halteres black, alulae dark fuscous. Length 3 mm.

Holotype: Hainan Island, To Han, 7 June 1935 (J. L. Gressitt).

Empis (Coptophlebia) ostentator Melander, new species

Male. Black, very lightly dusted with gray. Occipital hairs very sparse; third joint of antennae excised beneath, three times as long as depth of the bulbous base, the style one-third as long as the third joint. Thoracic bristles rather strong, no hairs on

notum; six dorsocentrals all relatively long, acrostichals very sparse, two scutellars. Pygidium very small, penis thin and fuscous. Legs all black, the whitish pulvilli contrasting, middle tibiae with extensor seta at middle and another preapical, hind tibiae with four extensor setae about twice the diameter of the tibia; metatarsi half the tibial length, the middle ones with long preapical seta, the hind ones with close plantar setulae and with two extensor setae, joints two, three and four of hind tarsi each with a long dorsal seta. Wings hyaline, veins light fuscous, the posterior veins thin and pale, no stigma, third vein forked beyond end of second, the branch straight and nearly perpendicular, costal ratio of submarginal cells 1:3, anterior crossvein at basal fifth of discal cell, sections of fifth vein subequal; halteres black. Length 2 mm.

Holotype: TSIN LEONG SAN, E. Kwantung, S. CHINA, 5 June 1936 (J. L. Gressitt).

A female from the same locality taken on June 2 probably is to be associated with this remarkable male. It is strikingly dimorphic in having pennate legs as indicated in the key, and has reduced setae on the legs. The stigma is faint.

Empis (Coptophlebia) poecilosoma Melander, new species

Female. Occiput brownish, hairs very sparse; antennae black, third joint lanceolate, the style half as long as the third joint; proboscis two and one-half times the head-height, the apical half and palpi yellowish. The black spots of the thorax consist of a round spot just above base of wings, a vertically elliptical spot surrounding the spiracle below the humerus and a small round spot surrounding the posterior spiracle; dorsocentrals and acrostichals sparse, a small lateral bristle on scutellum in addition to the regular apical pair, 1 hum, 1 phum, 1 npl, 5 metapleural hairs. Abdomen brownish, the base and venter pale yellow, hairs very short and sparse, those of first segment black, of rest of abdomen pale. Legs with no long setae or scales, hind legs rather setulose; coxae yellow, trochanters with brown spot, femora, and tibiae except brownish apex, testaceous, tarsi mostly brown, the front metatarsi and basal two-thirds of middle metatarsi paler. Wings lightly infumated in front, veins brown, no stigma, the anal lobe not developed, no axillar notch, basal cells coextensive, third vein forked opposite end of second vein, the branch nearly straight, forming angle of 80 degrees, two-thirds as long as last section of third vein, the costal ratio of submarginal cells 1:5, last section of fourth vein curving forward before disappearing, anterior crossvein at basal third of discal cell, sections of fifth vein proportioned 2:3; halteres black, the stalk and the alulae pale yellow. Length 3 mm.

Holotype: YIM NA SAN, E. Kwantung, S. CHINA, 11 June 1936 (J. L. Gressitt).

Empis (Coptophlebia) sinensis Melander, new species

Related to *tenuinervis* Bezzi and *hyalea* but differs from the description of the latter as follows: Pygidial valves very small, the lower pair not vertical nor hairy, base of penis hidden. Legs uniformly black, bristles reduced in number and length; hind femora with only normal hairs and no setae; front tibiae with two extensor setulae, middle tibiae with apical seta, hind tibiae evenly and slightly thickened and with coarse flexor setulae and five moderate extensor setae; tarsal setae normal, anterior metatarsi slender, middle metatarsi longer than next joint, hind metatarsi half as long as the tibia but not thicker than it, the second and third joints swollen. Costal ratio of submarginal cells 1:2.

Holotype and *allotype*: TSIN LEONG SAN, E. Kwantung, S. CHINA, 5 June 1936 (J. L. Gressitt). *Paratypes*: one male, YIM NA SAN, E. Kwantung, CHINA, 10 June, and one female taken with the types.

Empis (Coptophlebia) thiasotes Melander, new species

Male. Third antennal joint emarginate beneath, two and one-half times as long as basal depth, the style half as long as the joint. Thorax lightly cinereous, its bristles rather short, only three pairs of acrostichals, two scutellars. Abdomen shining, nearly bare, the hairs black; pygidium with upper valves small and spoon-shaped, the lower valves pointed behind, penis thin. Legs fuscous, the knees narrowly paler, pulvilli large and yellowish; anterior femora with only minute hairs and no setae, hind femora with loose flexor fringe of fine hairs and three short setae near middle of exterior face; front tibiae short-setulose within on distal half and externally with a row of fine short setae, middle tibiae with fine hairs and three setae, one within at basal third and two extensor at one-third and two-thirds the length, hind tibiae with a flexor row of close setae which are two or more times as long as the diameter of the joint, and a more open extensor row three bristles of which are much longer than the others; joints of front and hind tarsi tumid and furnished with very long dorsal setae, middle metatarsi half as long as tibia, hind metatarsi two-thirds as long as tibiae. Wings lightly infumated, veins fuscous to base, stigma scarcely darker, third vein forked beyond end of second vein, the branch nearly straight, at angle of 80 degrees, costal ratio of submarginal cells 1:3, anterior crossvein at basal sixth of discal cell, sections of fifth vein equal; halteres black, alulae fuscous. Length 3 mm.

Holotype: Tjibodas, MT. GEDE, 9,000 feet, JAVA (Bryant and Palmer collectors; U. S. National Museum).

Judged by its elongated front metatarsi this species is evidently related to *Empis jacobsoni* Meijere, also from Java, but differs in the bristles of the legs. Meijere describes the legs of his species as being shining black, their pubescence thick, especially on under side of the middle femora where the hairs become long and bristle-like, and the front femora having four to six setae beneath near the base. The species name, *thiasotes*, is Greek, meaning one of a company of dancers.

A FORTUITOUS BEER TRAP

While collecting in the barren-ground country of northwestern Nevada during October of 1941, I stopped at Fish Spring (Washoe County), where a tiny stream originates near a rocky outcrop and disappears into the ground a couple of rods away. The nearest water is better than 20 miles distant. Here an empty beer bottle was found with more than a hundred specimens of *Nicrophorus marginatus*, *Silpha lapponica* (Silphidae), *Saprinus lugens* and *S. discoidalis* (Histeridae), nearly half of which were acceptable cabinet specimens. They had obviously drowned in whatever fluid the bottle last contained, whether beer or rainwater, but in any case, the stale odor, long known to be popular with beetles of these groups, had attracted them in larger numbers than it would have been possible to collect within a radius of five miles from chance animal carcasses.—IRA LA RIVERS.

A CORRECTION TO THE KEY TO THE GENERA OF THE SCRAPTIINI

The last division of the key to the genera of the Scraptiini in the Pan-Pac. Ent., Vol. XXII, No. 2, page 67, April 1946 should be changed to read as follows:

CC. Last segment of labial palpi oblong-oval, third and fourth antennal segments subequal, second and third segments combined longer than the fourth.....
.....*Neoscraptia* Fend.

KENNETH M. FENDER.

A NEW WASP FROM THE GALAPAGOS ISLANDS

(Hymenoptera: Sphecidae: Pemphilidini)

BY V. S. L. PATE
Cornell University, Ithaca, N. Y.

The recorded Sphecoid wasp fauna of the Galapagos Islands is very limited. Williams in 1926 reported only three species from the islands[1]: *Nitela darwini* Turner, from Chatham Island, described from a species taken by Charles Darwin on the voyage of the Beagle; and *Tachysphex galapagensis* Rohwer, described from material taken on Albemarle Island by the Leland Stanford University Galapagos Expedition of 1899, and specimens collected on South Seymour Island in 1923 by the Harrison Williams Galapagos Expedition of the Department of Tropical Research, New York Zoological Society, under the leadership of William Beebe. In addition, Williams states that in August, 1906, he found at James Bay, James Island, cocoons containing larvae of a Pemphilidine wasp in cells of a decayed branch of an *Erythrina* tree at low altitude. However, no adults of this wasp were seen or captured.

In the collection of the United States National Museum I recently discovered a Pemphilidine wasp taken on Chatham Island in 1899 by the Leland Stanford University Galagagos Expedition. Ashmead evidently intended to describe it but never published a description. This species, a description of which is appended below, is a member of the large, common, and ubiquitous genus *Ectemnius* which occurs in all the habitable major land masses and on many oceanic islands as well. This form may be the adult of the larvae which Williams found on James Island, but, if not, it is doubtless a closely related species, for *teleges* is also a xyloecete and probably stores its cells with flies.

Ectemnius (Hypocrabro) teleges[2] Pate, new species

This species is similar in many respects to the common and

[1]Williams, Francis X. Expedition of the California Academy of Natural Sciences to the Galapagos Islands, 1905-1906. XVIII: The Bees and Aculeate Wasps of the Galapagos Islands. Proc. Calif. Acad. Sci., (4), II, pp. 347-357, (1926).

[2]From tēlē, far off, distant + ge, land.

widespread North American form *3-fasciatus* Say, but *teleges* differs markedly from that species in its livery, the puncturation of the abdominal tergites, and details in the sculpture of the mesopleura and propodeum and conformation of the apical margin of the clypeal lobe.

Female. Length 7.5 mm. Black; the following eburneous: antennal scapes; mandibles with a median stripe lengthwise almost to red apices; pronotum dorsally (briefly interrupted medially); pronotal tubercles; axillae with a small spot; scutellum on anterior half; second to fifth abdominal tergites with a short, broad, transverse trigonal spot laterally on each side; sixth tergite completely; sixth sternite on disc; fore femora irregularly annulate at apex; middle and hind femora with a spot above at apex and middle femora with a stripe beneath; all tibiae wholly save for inner faces; all tibial calcaria. Brunneous: tegulae and axillary sclerites; all tarsi. Wings clear hyaline, iridescent; veins and stigma brunneous.

Head subfulgid; clypeus and inner orbits with a broad band of appressed silvery sericeous pile; vertex with a thin clothing of suberect subaeneous hair; temples thinly clad with decumbent silvery hair. Front gently concave between the inner orbits, with a wide, polite, impunctate, glabrous, immarginate scapal sinus; upper front and vertex with fine, close, even puncturation throughout; supra-orbital foveae large, cuneate, indistinct; postocellar line eight-tenths the ocellocular distance; temples finely punctate; occipital carina moderately flanged, not foveolate anteriorly, attaining below the posterior angles of the large subquadrate oral fossa, the hypostomal carinule simple, not lobed medio-posteriorly. Antennae with scapes subcylindrical, sharply unicarinate lengthwise, two-thirds the vertical eye length; pedicel obterete, two-thirds the length of first flagellar article; flagellum simple, first segment one and a half the length of second, last article only slightly longer than the penult segment. Clypeus with median length three-tenths the vertical eye length; median lobe finely punctate, very weakly tectate, bisected by a nitidous keel, apical width one and a fifth the median clypeal length, apical margin subtruncate, with a very narrow, inflexed, transversely sulcate bevel. Mandibles tridentate apically.

Thorax subfulgid to subopaque; dorsum with a thin vestiture of erect, light hair, the pleura somewhat more noticeably clad with decumbent silvery pubescence. Pronotum weakly notched medially, anterior dorsal margin transversely carinate, the humeri subdentate and with a carina descending vertically there, lateral margins not carinate, posterior margin strongly impressed. Mesonotum with moderate contiguous puncturation throughout; mesonotal ridges moderate; suture between mesonotum and scutellum

deeply impressed, foveate; axilla simple, rounded, immarginate laterally; scutellum tumid, anterior half with scattered, fine punctures, becoming closer and coarser posteriorly; postoscutellum finely punctate. Mesopleura strongly, horizontally to obliquely costulate, with punctures scattered between the rugulae; prepectus sharply margined anteriorly; the vertical carina before middle coxae large and strong, the sternostirae well developed and almost attaining the sharply margined anterior edge of mesosternum; metapleura coarsely, horizontally striate. Propodeum with a moderate vestiture of light to silvery, erect hair on dorsal and posterior faces which are also finely punctate; dorsal face with a large, poorly defined, semicircular area, the anterior margin foveolate, bisected by a narrow marginate groove, the lateral areas traversed by fine, oblique rugulae radiating from anterior margin and becoming coarse at sides, separated from posterior face by a wide, indistinctly foveate groove; posterior face bisected by an immarginate strong sulcus, the lateral areas traversed by subhorizontal rugulae and striae; lateral carinae obsolete; lateral faces very finely, horizontally striate.

Legs simple, rather stout. Middle and hind tibiae spinulose on outer faces. Longer hind tibial calcar subcultriform, three-sevenths (0.43) the length of hind metatarsi.

Fore wing with marginal cell two and a half times as long as wide, broadly, somewhat obliquely truncate at apex; radius with first abscissa five-sixths (0.83) the length of second abscissa; transverse cubital vein oblique, inclivous, one and two-thirds the length of the second abscissa of cubitus which is only one-seventh (0.143) the length of first abscissa of cubitus.

Abdomen fulgid; with a thin clothing of decumbent aeneous puberulent hair; a weak constriction between first and second tergites. All tergites with a moderately fine, distinct, well separated puncturation, becoming finer and closer posteriorly to form transverse, punctate apical bands. Pygidium elongate, strongly narrowed and excavate apically, the lateral margins indistinctly fringed with weak setae, the disc with a few coarse, scattered, setigerous punctures, and weakly tumid at base. Sternites with microscopically fine, cancellate basic sculpture throughout; disc of second with a few fine, scattered punctures; all with a more or less distinct, transverse, preapical row of setigerous punctures.

Type. ♀; CHATHAM ISLAND, GALAPAGOS ISLANDS. May 27, 1899. (Leland Stanford University Galapagos Expedition of 1899.) [United States National Museum, Catalogue No. 5512.]

This island form is known only from the unique female described above.